



इरकॉन इंटरनेशनल लिमिटेड

(भारत सरकार का उपक्रम)



IRCON INTERNATIONAL LTD.



(A Govt of India Undertaking)

Katni- Singrauli Doubling Project (RE Dept.), 1st Floor, Above Maruti Suzuki Show room,

Near Jhinjhari Police Station, NH-7, Jabalpur Road, Katni-483501

E-Mail – rekss.5031@ircon.org

No. IRCON/2065/KSDP/Elect/Gen-T&P/03/663

Dated: 09.07.2024

To,
M/s India Construction,
Duplex no. 4,
Near Duggal Factory, Jagrati Nagar,
Amkhera road, Gohalpur,
Jabalpur – 4820012 (M.P.)
E-mail: indiaconstruction71@yahoo.com

LETTER OF ACCEPTANCE

Sub: Design, Supply, Installation, Testing & Commissioning of Internal & External electrification of Residential quarters, platform lighting, Station buildings, HT/LT power supply arrangement, solar plants, power line modification etc. for balance general electrical work in Katni-Singrauli section and Supply of Tools & Plants in connection to Katni Singrauli Doubling Project of West Central Railway

Ref: i) e-procurement notice no.- IRCON/2065/KSDP/Elect/Gen-T&P/03/T-2, dated 14.06.2024
ii) Your offer no. 713134, dated 28.06.2024

Dear Sir,

With reference to the above, this is to inform you that your offer for the subject work, has been accepted at a total contract value of **Rs. 8,71,25,199.44/-** (Eight Crores Seventy-One Lakhs Twenty-Five Thousand One Hundred Ninety-Nine Rupees & Forty Four Paise Only), inclusive of GST @ 18% and any other taxes & duties etc., on the following terms and conditions:

1.0 SCOPE OF WORK:

The scope of work in the subject tender covers "Design, Supply, Installation, Testing & Commissioning of Internal & External electrification of Residential quarters, platform lighting, Station buildings, HT/LT power supply arrangement, solar plants, power line modification etc. for balance general electrical work in Katni-Singrauli section and Supply of Tools & Plants in connection to Katni Singrauli Doubling Project of West Central Railway."

The detailed scope of work shall be as per the relevant clauses of Section-V & VI of the tender documents issued to you and submitted by you with your offer.

2.0 CONTRACT AGREEMENT: (SCC clause - 14)

The contractor shall enter into and execute the Contract Agreement in the form of agreement (Annexure-X) within 28 days from the date of issue of Letter of Acceptance (LOA). The stamp paper of the requisite value as per the prevailing laws shall be provided by the contractor at his own cost. Original agreement shall be retained by the employer/ engineer and a certified copy shall be made available to the contractor.

(CIN -L45203 DL1976 GOI008171)
Regd. Office: C-4, District Centre, Saket, NEW DELHI – 110 017
Tel: 011- 2956666, Fax -011-26522000, 26854000.





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3.0 COMMENCEMENT OF CONTRACT: (SCC clause - 29)

Date of issue of Letter of Acceptance (LOA) shall be considered as the commencement date of Contract.

4.0 COMPLETION PERIOD:

The work is required to be completed within 9 (Nine) months from the date of issue of Letter of Acceptance (LOA) as per clause-30 of SCC.

The work has to be executed in co-ordination with other agencies working on or near the project.

In case of any delay in the completion period, the extension of the same shall be dealt as per clause 17 of railway GCC April 2022.

5.0 FREIGHT AND INSURANCE CHARGES:

The rate shall be inclusive of freight & Insurance charges as per clause 31 of SCC.

6.0 TAXES, DUTIES & LEVIES:

Taxes, duties & levies shall be as per clause 32 of SCC.

7.0 PAYMENT TERMS: (SCC clause - 39)

SN	Description	Payment in Percentage
Sch. 1 (A-1): HT/LT Power supply arrangement, electrification of platforms, service buildings, power line crossings, solar panel & other miscellaneous works		
1	Payment for supply of materials as per BOQ Schedules shall be as under:	
a)	Supply of materials at site/ Store	70%
b)	Erection of above materials	20%
c)	Testing & Commissioning of installation	5%
d)	Handing over of executed work	5%
	Total	100%
2	Payment for Erection of materials as per BOQ Schedules shall be as under	
a)	Erection of Materials	90%
b)	Testing & commissioning of Executed Works	5%
c)	Handing over of executed work	5%
	Total	100%
Sch. 1 (A-2): Internal wiring of staff quarters		
1	Payment for Erection of materials as per BOQ Schedules shall be as under	
a)	Erection of Materials	90%
b)	Testing & commissioning of Executed Works	5%
c)	Handing over of executed work	5%
	Total	100%

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Sch. 1(B): Technical Consultants & Sch. 2: Site Inspection Vehicles		
1	Against providing services	100%
Sch. 1 (C): T&P/M&P		
1	Payment for materials as per BOQ Schedules shall be as under	
a)	Supply of Materials	80%
b)	Testing & commissioning of Supplied material	10%
c)	Handing over of Supplied material	10%

Documents required for release of Schedule- payment are as per clause 39 of SCC.

8.0 MODE OF PAYMENT AND TAX DEDUCTION AT SOURCE: (SCC clause - 40)

a) Mode of Payment:

All payments to the Contractor shall be made through Electronic Clearing System (ECS) after submission of Tax Invoice and required documents as per clause 39 of SCC. The contractor shall furnish his Banker's details in addition to his own bank account details. All amounts payable to the contractor shall be directly credited to his bank account.

b) Tax Deduction at Source

Income Tax and all statutory dues (if any applicable) shall be deducted from the payments credited/ released by employer/ engineer to the contractor against execution of work as per income tax act 1961. The deductions shall be made as per prescribed rates prevalent from time to time unless a tax exemption certificate is produced by the contractor.

9.0 PERFORMANCE SECURITY & RETENTION MONEY: (SCC clause - 10)

The contractor shall submit a Performance Security (PS) in the form of a Performance Guarantee (PG). The Performance Guarantee shall be in the form of irrevocable Bank Guarantee (BG) on the Proforma annexed as Annexure-XI of the Tender document from any scheduled Bank for an amount of 5% (Five percent) of the contract value i.e. Rs. 43,56,260/-. The performance security and retention money shall be as per clause 10 of SCC.

Retention money for all contracts shall be recovered from on account/ final bills of the Contractor @ 10% of gross value of each bill after adjusting Earnest Money Deposit (EMD) amount till the amount so recovered including EMD amount adds up to 5% of the contract value (including GST and all other duties & taxes & all variations but excluding price variation) of the work.

10.0 INSURANCE

The Insurance policy shall be obtained & submitted by the contractor in line with clause 11 of SCC.

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11.0 QUANTITY VARIATION:

Quantity variation is applicable as per SCC clause 54 & in line with clause 42 of railway GCC April 2022.

12.0 DEFECT LIABILITY PERIOD

The defect liability period shall be for 12 months as per clause 55 of SCC.

13.0 PRICE ADJUSTMENT:

Price adjustment is applicable as per SCC clause 58.

All other terms & conditions shall be applicable as per the tender document & subsequent corrigendum issued.

This Letter of Acceptance is issued in duplicate. You are requested to return one copy duly signed and stamped in token of your acceptance at the earliest.

Thanking you,

Yours faithfully
For & on behalf of
IRCON International Ltd

Regn. No. 55-8171

(R. K. Singh)
Chief General Manager/Elect.

(CIN -L45203 DL1976 GOI008171)

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Balance General Electrical Works in Katni-Singrauli Doubling Project

BILL OF QUANTITY

SUMMARY		
Sr. No.	Description of Schedule	Amount (Incl. GST)
Schedule-1		
A	General Electrical Works	
1	HT/LT Power supply arrangement, electrification of platforms, service buildings, power line crossings, solar panel & other miscellaneous works	₹ 4,97,35,072.15
2	Internal wiring of staff quarters	₹ 1,00,20,243.60
B	Technical Consultants	₹ 1,47,06,530.46
C	T&P/M&P	₹ 1,18,08,251.77
Total of Schedule-1		₹ 8,62,70,097.98
Contractor Quoted below		1.97%
Quoted amount of Schedule-1		₹ 8,45,70,577.05
Schedule-2		
1	Site Inspection Vehicles	₹ 26,05,959.80
Total of Schedule-2		₹ 26,05,959.80
Contractor Quoted below		1.97%
Quoted amount of Schedule-2		₹ 25,54,622.39
Total Amount (Sch-1 + Sch-2)		₹ 8,71,25,199.44



Balance General Electrical Works in Katni-Singrauli Doubling Project

BILL OF QUANTITY

Schedule - A-1

Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST	Erection	Supply	Erection	Total
Schedule - A-1								
HT/LT Power supply arrangement, electrification of platforms, service buildings etc., cables, solar panel, transformers & miscellaneous works								
A-1								
1	Supply, Erection, Testing and Commissioning of control and distribution panel for colour light signalling supply in 25KV AC traction system as per RSDO technical specifications No. T1/SPC/PSI/CLS/0020(12/02) With A&C slips No. 1 to 4 or latest, connections as required: For 10 kVA AT	Nos	6	98,176.71	15,420.53	5,89,060.26	92,523.18	6,81,583.44
2	Junction Box 300x300x170 with AL Busbar including of 63A/125A fuse for 10KVA/25KVA AT, Neutral Link, 2 Nos Gland with required size, Earthing connection with 8mm bolt, Powder coated paint, Dust proof rubber seal, Bolt 04 nos for fixing box etc.	Nos	6	2,014.91	223.88	12,089.46	1,343.28	13,432.74
3	Dismantling of control and distribution panel for colour light signalling supply in 25KV AC traction system & erection at other location/ hand over to railway	Nos	8	-	11,073.22	-	88,585.76	88,585.76
4	Supply, erection, oil filtration, testing & commissioning of 25KV/240V Auxiliary (LT) Supply Transformers oil type with DO fuse switch, anti climbing device, Arcing horns, pedestal insulators, copper jumper and earth electrode etc. (With Porcelain Insulators 1050mm CD)							
(a)	10 kVA AT	Set	16	1,40,787.16	14,342.82	22,52,594.56	2,29,485.12	24,82,079.68
5	Supply and erection of all types of galvanised steel structures, small parts steel etc.	MT	6	1,52,216.72	3,545.77	9,13,300.32	21,274.62	9,34,574.94
PB	Extra on erection under Power block (of item no. 6)	MT	6	-	3,545.77	-	21,274.62	21,274.62
6	Supply of cable joint kit, suitable for 2 core LT 70 sqmm to 150 sqmm XLPE(E) insulated aluminium conductor cable and testing and commissioning etc.	Nos	20	4,268.88	474.32	85,377.60	9,486.40	94,864.00
7	Supply, erection, testing & commissioning of 63Amp Changeover switch enclosure complete in all respect	Nos	20	5,933.04	1,483.26	1,18,660.80	29,665.20	1,48,326.00
8	Supply & Erection of G.I Octagonal pole including digging of pit, making foundation with cement, sand & concrete in ratio 1:2:6, mulling, accommodating G.I. pipe in foundation for cable loop-in-loop out of suitable size as required:			-	-	-	-	-
(a)	5 Meters long	Nos	110	14,206.81	3,487.48	15,62,749.10	3,83,622.80	19,46,371.90
(b)	7 Meters long	Nos	75	19,694.35	4,834.69	14,77,076.25	3,62,601.75	18,39,678.00
(c)	Additional cost of single arm bracket suitable for street light fixture	Nos	75	592.28	146.95	44,421.00	11,021.25	55,442.25
(d)	Additional cost of double arm bracket suitable for street light fixture	Nos	110	702.21	173.87	77,243.10	19,125.70	96,368.80
9	Supply and laying of unplasticised rigid PVC pipe 110mm conforming to IS : 13592 with fitting cutting & jointing etc direct in ground including excavation & refilling the trench complete as required	Mtr	750	285.95	26.22	1,76,962.50	19,665.00	1,96,627.50
10	Supply, erection, testing and commissioning of 36 watt LED Street light fitting with luminaires, 220- 240V 50 HZ , CRI >70, IP-65, power factor> 95, cool white, integral drive, lumen output 3500 lm, conforming to IEC 60598 and IS 10322 and Railway specification, make eromption Greaves, Philips, Bajaj, Havells. cost of fixing arrangement (clamps and fasteners with all accessories and service connection) by mean of 2x1.5+1x1.5 sqmm copper wire completed power supply connection) is included.	Nos	220	6,665.36	657.34	14,66,379.20	1,44,614.80	16,10,994.00



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		Total
				Supply	Erection	Supply	Erection	
11	Supply, erection, testing and commissioning of 45 watt LED Street light fitting with luminaires, 220-240V 50 Hz, CRI >70, IP-65, power factor > .95, cool white, integral drive, lumen output 3500 lm, conforming to IEC 60598 and IS 10322 and Railway specification, make crumpton Greaves, Philips, Bajaj, Havells, cost of fixing arrangement (clamps and fasteners with all accessories and service connection by mean of 2x1.5+1x1.5 sqmm copper wire completed power supply connection) is included.	Nos	75	7,809.54	657.34	5,85,715.50	49,300.50	6,35,016.00
12	Supply, excavation of trench and laying of 1.1 KV grade LT XLPE insulated armoured, aluminium conductor cable, making good the damages, end terminations with aluminium crimping socket/ plugs, provisions of cable route markers, testing & commissioning etc. as required as per technical specifications.			-	-	-	-	-
(a)	2 Core 70 sq. mm	Meter	1500	750.44	45.99	11,25,660.00	68,985.00	11,94,645.00
(b)	4 Core 16 sq. mm	Meter	2000	491.32	28.04	9,82,640.00	56,080.00	10,38,720.00
(c)	4.0 Core 35 sq. mm	Meter	1000	693.23	28.04	6,93,230.00	28,040.00	7,21,270.00
(d)	4.0 Core 70 sq. mm	Meter	500	1,106.03	45.99	5,53,015.00	22,995.00	5,76,010.00
(e)	4.0 Core 120 sq. mm	Meter	500	1,746.55	62.82	8,73,275.00	31,410.00	9,04,685.00
(f)	4.0 Core 300 sq. mm	Meter	250	3,960.86	115.54	9,90,215.00	28,885.00	10,19,100.00
(g)	2 Core 150 sq. mm	Meter	300	883.96	35.36	2,65,188.00	10,608.00	2,75,796.00
13	Supply, excavation of trench and laying of following sizes XLPE (f) insulated, armoured, aluminium conductor LT cable			-	-	-	-	-
(a)	11 KV, 3 Core 185 sq mm	Meter	250	1,909.20	112.17	4,77,300.00	28,042.50	5,05,342.50
(b)	33 KV, 3 Core 300 sq mm	Meter	250	2,665.25	180.60	6,66,312.50	45,150.00	7,11,462.50
14	Supply of outdoor type, heat shrinkable, end termination kit, suitable for following cable sizes XLPE(f) insulated, armoured aluminium conductor cable and making termination, connections with overhead conductor, testing and commissioning etc			-	-	-	-	-
(a)	3 core 11 KV 70 to 185 sq mm	Set	8	15,382.39	2,416.22	1,23,059.12	19,329.76	1,42,388.88
(b)	3 core 33 KV 240 to 400 sq mm	Set	8	48,245.93	4,770.75	3,85,967.44	38,166.00	4,24,133.44
15	Supply and erection of MS cable route marker	No	80	461.03	21.31	36,882.40	1,704.80	38,587.20
16	Supply & installations of 5 star, 1.5 Ton Split AC, inverter type (Heating & cooling), with auto voltage corrector (i.e. stabilizer), Make-Voltas or similar	No	40		69,787.56		27,91,502.40	27,91,502.40



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
17	20A MCB and socket for air Conditioner: Supply & fixing of 20A, 240V SPN, industrial type socket outlet with two pole & earthen metal enclosed plug top alongwith 20 A Ac screw type MCB in sheet steel enclosure on surface or with chained metal cover for socket outlet and complete with connection, testing & commissioning etc as required. Prior approval for material shall be taken from competent authority. Preferable make shall be Legrand, Siemens, Schneider or equivalent.	No	10	-	1,008.15	-	10,081.50	10,081.50
18	Power circuit wiring for Air conditioner: Supply, erection, testing, commissioning of power circuit wiring with 2x6 sqmm for P & N and 1x6 sqmm for earth PVC insulated multi stranded copper wire single core for earth. Preferable make of wire shall be polycab, Universal, CCI or similar.	Mtr	500	-	88.83	-	44,415.00	44,415.00
19	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 KA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.			-	-	-	-	-
(a)	Double pole	Each	20	-	479.49	-	9,589.80	9,589.80
20	Supply, installation, testing and commissioning of 11 KV/ 440 V, 50 HZ, out door type, Delta/Star connected, copper wound, Dyn11, ONAN cooled, power distribution transformer (outdoor type) conforming to IS:1180 (Energy Efficiency level shall not be less than-II), complete with all accessories and first filling of oil as required.			-	-	-	-	-
(i)	100 KVA	No	3	3,61,239.86	65,009.18	10,83,719.58	1,95,027.54	12,78,747.12
(ii)	250KVA	No	1	7,83,199.37	1,05,269.46	7,83,199.37	1,05,269.46	8,88,468.83
(iii)	Extra for construction of foundation for transformer installation/ Panels / others etc as required.	CUM	80	6,877.37	1,945.09	5,50,189.60	1,55,607.20	7,05,796.80
21	Electrification of service building/Passenger Shelter shed,Pump house/ Substation building etc.			-	-	-	-	-
(a)	Wiring for light /ceiling fan/ exhaust fan/ call bell/ light plug/ group etc. points including circuit wiring, submain wiring with Fire Retardant (FR), PVC insulated, multistranded, copper conductor, single core cable on surface /inrecessed PVC conduits, distribution boards, subdistribution boards, earthing etc. as required. Wiring shall be done as per sizes of cables, no. of points permissible in each circuit and submains as indicated in Explanatory Notes.	Point	150	-	1,868.81	-	2,80,321.50	2,80,321.50
(b)	Wiring for power plug point including circuit wiring, submain wiring with Fire Retardant (FR), PVC insulated, multistranded, copper conductor, single core cable on surface/ inrecessed PVC conduits, distribution boards, sub distribution boards, earthing with G.I pipe electrode etc. as required. Wiring shall be done as per sizes of cables, no. of points permissible in each circuit and sub mains as indicated in Explanatory Notes.	Point	30	-	3,431.40	-	1,02,942.00	1,02,942.00
(c)	Extra for provision of industrial type iron clad plug socket with 32A DP MCB in M.S. Box.	Point	20	-	936.65	-	18,733.00	18,733.00
(d)	Multi plug points (power strip 3no. 6A socket controlled by 16A switch) similar to Legrand cat no. 6745.48 OR as approved by engineer.	Nos.	25	2,230.01	109.93	55,750.25	2,748.25	58,498.50
22	Civil plastering & finishing work							
(a)	12 mm cement plaster (in fine sand) of mix 1:6 (1 cement: 6 fine sand)	Sqm	1500	-	333.35	-	5,00,025.00	5,00,025.00



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount	
				Supply	Erection	Supply	Total
(b)	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	Sqm	300	-	156.05	-	46,815.00
(c)	Distemper with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gram/litre, of approved manufacturer and of required shade and colour all complete to achieve even shade and colour: New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre	Sqm	300	-	185.65	-	55,695.00
23	Dismantling old plaster or skirting taking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 meters lead.	Sqm	1500	-	54.65	-	81,975.00
24	Supplying and fixing of 20mm size of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required	Mtrs	1000	-	72.44	-	72,440.00
25	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required. (a) 3x6 sqmm	Mtrs	400	-	144.02	-	57,608.00
26	Rewiring work of old quarters			-	-	-	-
(a)	Circuit wiring with 2x2.5 sqmm copper multistranded wires (SDB panel to SB) and copper wire 1.5 sqmm green in colour for earth (2x2.5 sqmm + 1x1.5 sqmm) in PVC casing capping as required at site	Mtrs	500	34.50	4.31	17,250.00	19,405.00
(b)	Circuit wiring with 2x4 sqmm copper multistranded wires (SDB panel to SB) and copper wire 1.5 sqmm green in colour for earth (2x4 sqmm + 1x1.5 sqmm) in PVC casing capping as required at site	Mtrs	500	60.37	6.04	30,185.00	33,205.00
(c)	Circuit wiring with 2x6 sqmm copper multistranded wires (SDB panel to SB) and copper wire 1.5 sqmm green in colour for earth (2x6 sqmm + 1x1.5 sqmm) in PVC casing capping as required at site	Mtrs	600	85.38	10.35	51,228.00	57,438.00
(d)	Point wiring using PVC casing capping of following points including supply of required materials for wiring purpose using 1.5 sqmm multi strand copper wire etc. in casing capping (Angular holder point/ batten holder point (vertical), LED fitting, ODPT, Bulk head fitting, ceiling fan, Exhaust Fan, Reading light, Bell Etc)	Nos	200	250.10	28.46	50,020.00	55,712.00
(e)	6 Amps 5 pin socket point on fan and light control board	Nos	50	-	485.53	-	24,276.50
(f)	16 Amp 8 pin socket point on separate circuit and board	Nos	20	-	968.48	-	19,369.60
27	Service Tapping:- Supply ,erection ,testing &commissioning of service tapping (includes B class GI pipe 38/40 mm, clamps, nut bolt etc.) with 10 sqmm multi stranded copper cable for 1 phase supply. All material required for the job shall be supplied by contractor.All materials required for the job shall be supplied by contractor.Prior approval for material shall be taken from competent authority.	Nos	50	-	2,151.69	-	1,07,584.50



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
28	Supply, erection, testing & commissioning of SDB having copper busbar of 50 A capacity made of 14 SWG MS sheet comprising 1x30 A, 415 V, 11PN MCB (10 kA) for incoming & 3 x 5A SPN MCB, 3x10 A SPN MCB, 3x16A SPN MCB & 1No. ELCB of 300 mA sensitivity. SDB should conform to relevant IS standard. Preferable make shall be legend, scintems, schneider or equivalent. Prior approval for the material shall be taken from the competent authority. All materials required for the job shall be supplied by contractor.	Nos	10	-	7,770.22	-	77,702.20	77,702.20
29	Design, supply, erection, testing & commissioning of Grid connected solar power plant consisting of solar panels, PCU mounting structures and all other associated equipments as per RDSO/PE/SEPC/PS/0092-2008 (Rev.0) with latest amendments.	kWp	50	72,055.93	7,355.23	36,02,796.50	3,67,761.50	39,70,558.00
30	Supply, Installation, Testing & Commissioning of out door type weather proof LT Switch board as under:- (1) Incoming, 63 Amp MCCB, 4 pole- 2Nos (2) Out going, 40A, MCCB, 2Pole- 8Nos (3) Energy Meter Housing- 6 Nos (4) HRC Fuse 32/40 Amp -06 Nos (5) 200A Bus bar for each phase & neutral with indication lights cable glands and earthing stud etc.	Nos	9	60,540.48	6,726.72	5,44,864.32	60,540.48	6,05,404.80
31	Supply, Installation, Testing & Commissioning of out door type weather proof LT Feeder Pillar as under:- (i) Incoming MCCB 100A, 4 pole, 35kA :- 2 No (ii) Outgoing MCCB 63A, 4 pole, 25kA :- 2 Nos (iii) Outgoing MCB 40A, 4pole, 16kA :- 2 Nos (iv) Outgoing MCB 32A Double pole, 10kA :- 2 Nos (v) Sleaved/Epoxy coated copper bus-bar 200 A (vi) Indication lights	Nos	7	69,854.40	7,761.60	4,88,980.80	54,331.20	5,43,312.00
32	Supply, Installation, Testing & Commissioning of out door type weather proof LT Feeder Pillar as under:- (i) Incoming MCCB 125A, 4 pole, 35kA :- 2 No (ii) Outgoing MCCB 63A, 4 pole, 25kA :- 4 Nos (iii) Outgoing MCB 40A, 4 pole, 16kA :- 2 Nos (iv) Outgoing MCB 32A, DP, 10kA :- 4nos (v) Sleaved/Epoxy coated copper bus-bar 250 A (vi) Indication lights	Nos	6	86,619.46	9,624.38	5,19,716.76	57,746.28	5,77,463.04
33	Supply, Installation, Testing & Commissioning of out door type weather proof LT Feeder Pillar as under:- (i) Incoming MCCB 250 A, 4 pole, 35kA :- 2 No (ii) Outgoing MCCB 125 A, 4 pole 35kA :- 2 Nos (iii) Outgoing MCCB 63 A, 4pole 25kA :- 4 Nos (iv) Outgoing MCB 40 Amps, 4 pole 16kA :- 4 Nos (v) Outgoing MCB 32 Amps, DP 10 kA :- 4 Nos (vi) Sleaved/Epoxy coated copper bus-bar 400 A (vii) Indication lights	Nos	6	1,07,110.08	11,901.12	6,42,660.48	71,406.72	7,14,067.20



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
34	Supply, Installation, Testing & Commissioning of out door type weather proof LT distribution board as under:- (i) Incoming:- MCB 125 Amp, 4 Pole:- 1 No. (ii) Outgoing:- (a) 4 pole MCB 63 Amp with ELCB 300 mA:- 2 No. (b) ELCB 30 mA :- 4 Nos. (c) MCB 32 Amp, 2 Pole:- 4 Nos. (d) MCB 20 Amp, 2 Pole:- 4 Nos. (e) MCB 6 Amp, 2 Pole:- 4 Nos.	Nos	7	37,255.68	4,139.52	2,60,789.76	28,976.64	2,89,766.40
35	Supply installation, testing & commissioning of Tinner panel Suitable for 15 KW load (three phase) including contractor, MCB cable glands, terminal block and locking arrangement.	No	10	16,803.86	1,867.10	1,68,038.60	18,671.00	1,86,709.60
36	Supply, Erection, Testing and Commissioning of self contained drinking water cooler 150 liters capacity complete with all connected standard fittings, accessories etc. and 5kVA, wall mounted, I.C. controlled electronic auto-voltage corrector with time delay relay, supply and erection of earth electrode and connection to earthing system etc. as required.	No	4	77,754.36	16,801.38	3,11,017.44	67,205.52	3,78,222.96
37	Earthing with 3 meter long, 50 mm dia, G.I. pipe class 'B' earth electrode, adding the charcoal or coke and salt, providing masonry enclosure and cover plate with lifting arrangement etc. including connections with 4 mm G.I. wire from earth electrode to switch board / electrical equipment as required.	No.	60	3,927.20	616.96	2,35,632.00	37,017.60	2,72,649.60
38	Supply and laying 25mmx6mm G.I. strip at not less than 0.50 meter below ground or in recess as required.	Mtr.	250	87.50	15.70	21,875.00	3,925.00	25,800.00
39	Supply and connecting of GI earth continuity wire of 6/8 SWG for providing of earth inter connection to the cable	Mtr.	1000	23.56	24.68	23,560.00	24,680.00	48,240.00
40	Supply, erection of GI pipe-class 'B' ISI marked with accessories including bends etc. for support of cable with erected pole / recessing in wall / floor / passing earth strip or passing cable as required:			-	-	-	-	-
(a)	32mm dia	Mtr.	200	356.71	57.21	71,342.00	11,442.00	82,784.00
(b)	50mm dia	Mtr.	200	549.65	86.37	1,09,930.00	17,274.00	1,27,204.00
(c)	80 mm dia	Mtr.	100	922.07	143.58	92,207.00	14,358.00	1,06,565.00
(d)	150 mm dia	Mtr.	100	2,113.35	333.16	2,11,335.00	33,316.00	2,44,651.00
41	Drilling of horizontal bore below the track/road by pushing method by means of HDD machine for laying of HDPE	Mtr.	500	-	3,506.52	-	17,53,260.00	17,53,260.00
42	Supply and laying of HDPE pipe DWG/Split DWG type, of size 160 mm outer dia, Grate PNG, PE100, ISI marked (either single piece of full round or two half round split pieces set), under the Railway track/ road etc. digging of trench and back filling with excavated earth after laying of pipe and making good the damages as required.	Mtr.	500	759.46	19.08	3,79,730.00	9,540.00	3,89,270.00
43	Supply and installation of 1X20W LED tube light fitting complete with LED lamp similar to Philips Model No-TMC 501 P1xT-LED22WP3241 or equivalent as approved by engineers with 3x1.5sqmm PRLS PVC insulated multistranded copper cables as instructed & earthing etc as required. Make-Havells, Bajaj, Philips or Equivalent	No	50	1,381.91	-	69,095.50	-	69,095.50



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
44	Supply, erection, testing and commissioning of 9W or equivalent LED Bulb including fitting, colour temp.6500K(cool day light) of ISI approved make. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar. Prior approval for material shall be taken from competent authority. All materials required for the job shall be supplied by contractor.	Nos	20	99.18	12.94	1,983.60	258.80	2,242.40
45	Supply, erection, testing & commissioning of ceiling fan 1400 mm sweep including connection the down rods of standard length (up to 30 cm) with 3x 1.5 sqmm PVC insulated copper (including PVC conduit) etc as required. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar. Prior approval for material shall be taken from competent authority.	No	50	2,808.83	440.84	1,40,441.50	22,042.00	1,62,483.50
46	EXHAUST FAN 300 MM SWEEP : Supply, erection, testing & commissioning of exhaust fan 300 mm sweep (Energy Efficient) including making opening for exhausted air (if required) and plastering. Fixing is to be done in the wall using required fasteners, then grouting and then connection is to be given from ceiling rose to this fan using cable of 1.5 Sqmm size. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar. Prior approval for material shall be taken from competent authority. All materials required for the job shall be supplied by contractor.	No	10	4,167.25	651.73	41,672.50	6,517.30	48,189.80
47	Supply, Installation, testing and commissioning of hot dipped galvanised, high mast system complete with all accessories, foundation, carriage arrangement suitable for luminaires symmetrically arranged & control gear boxes and lightning final etc. twin dome aviation obstruction lights, control panel, multi core flexible copperconductor cable, connection to earthing system and fencing panel as per requirement (a) 16 Meter high mast system with 6 nos. 2x 160 watts LED lamp & luminaires	Job.	3	3,38,561.69	53,381.24	10,15,685.07	1,60,143.72	11,75,828.79
48	Supply, installation, testing and commissioning of submersible pump set suitable to operate on 3 phase, 415V, 50 Hz AC supply along with control panel etc. complete for supplying water at suitable discharge and head as per site requirement.			-	-	-	-	-
(a)	7.5 HP Pump set	Job.	2	1,09,057.56	10,783.26	2,18,115.12	21,566.52	2,39,681.64
(b)	5 HP pump set	Job.	2	99,872.78	9,878.02	1,99,745.56	19,756.04	2,19,501.60
49	Supply, erection, testing & commissioning of 3 pole, 11 KV, 400 amps, gang operated switch complete with drop out fuses etc. as required.	No	5	41,995.61	7,685.02	2,09,978.05	38,425.10	2,48,403.15
50	Provision for execution of pit. Foundation casting and Supply, erection and commissioning of double pole structure by 2 nos. of RSI pole 100x16 mm -11 Mus long with all associated fitting /accessories etc complete in all respect.	No	1	65,064.63	7,229.50	65,064.63	7,229.50	72,294.13
51	Excavation of pit, foundation casting and supply & erection of RSI Pole/Strut 100x16mm - 11Mus long with all associated fitting /accessories etc complete in all respect.	Nos.	15	32,532.32	3,615.18	4,87,984.80	54,227.70	5,42,212.50
52	Supply and fixing double pole structure by 2 nos H-Beam, 13 mtr height 152x 152mm with all accessories include concreting	Set	4	94,426.76	10,491.96	3,77,707.04	41,967.84	4,19,674.88
53	Supply and fixing double pole structure by 2 nos H-Beam, 11 mtr height 152x 152mm with all accessories include concreting	Set	10	79,899.64	8,877.55	7,98,996.40	88,775.50	8,87,771.90
54	Supply & fixing single pole 1no H-Beam 11Mtr 152 x152 mm with all accessories include concreting	Set	40	39,949.82	4,438.77	15,97,992.80	1,77,550.80	17,75,543.60



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
55	Supply & fixing single pole 1 no H-Beam 13Mr 152 x152 mm with all accessories include concreting	Set	5	47,212.95	5,245.98	2,36,064.75	26,229.90	2,62,294.65
56	Supply & erection of overhead mains with AAC conductor of following size			-	-	-	-	-
(a)	Size-7/3.15 , Rabbit (50 Sqmm)	Mus	2200	90.55	8.62	1,99,210.00	18,964.00	2,18,174.00
(b)	Size-7/3.81, Racccon (80 Sqmm)	Mus	2000	133.67	12.94	2,67,340.00	25,880.00	2,93,220.00
(c)	Size-7/4.26, Dog (100 Sqmm)	Mus	500	146.61	17.25	73,305.00	8,625.00	81,930.00
57	Supplying & drawing/laying of PVC insulated XLPE aerial bunch power cable conductor H2/H4 grade aluminum solid/stranded conforming to IS-7098 Part-II, Alloy messenger of approved make in air with necessary material as per specification of required size as mentioned below - 11 KV Grade Aerial Bunch Cable:			-	-	-	-	-
(a)	3x05 + 1x80 Sqmm	Mus	350	1,156.40	115.64	4,04,740.00	40,474.00	4,45,214.00
(b)	3x70 + 1x70 Sqmm	Mus	250	1,046.66	104.67	2,61,665.00	26,167.50	2,87,832.50
58	Supply, fabrication and fixing of 4 way cross arm of size 100 mm x 50 mm x 1200 mm long channel, including insulators, MS fixing clamps 1" clamps for earth wire GI bolts and nuts complete including insulators and all other associated materials.	Set	40	424.30	106.08	16,972.00	4,243.20	21,215.20
59	Supply and provision of anti-climb devices with clamps, bolts, nuts complete with all other connected materials and works.	Nos.	200	313.05	78.48	62,610.00	15,696.00	78,306.00
60	Supply and provision of Danger Boards in Hindi / English / and Regional language on channelled steel plate with clamps, Bolts and Nuts complete with all other connected materials and works.	Nos.	40	313.05	78.48	12,522.00	3,139.20	15,661.20
61	Supply and fixing of 3 nos of 11KV HT Disc insulators with metal parts complete with all accessories etc	Set	30	343.24	86.24	10,297.20	2,587.20	12,884.40
62	Supply and fixing of 3 no of 11KV HT pin insulators with metal parts complete with all accessories etc	Set	30	183.69	45.71	5,510.70	1,371.30	6,882.00
63	Supply, installation, testing & commissioning of outdoor type, single side / Double side Glow sign boards/Pictorial signage boards with suspension/side mounting/wall mounting type arrangements as required. (Payment for Double sided glow sign board shall be made @ 150% of the rate of single sided glow sign boards)	Sq ft	150	486.83	72.91	73,024.50	10,936.50	83,961.00
64	Supply, fixing testing and commissioning of LED based station name board in English/Hindi characters in RCB colour completed with all connected accessories. The complete board shall conform to RDSO specifications No.RDSO/PE/SPEC/TL/ 0086-2009 (Rev 0) (August 2009) with latest modification/ revision and also specification No: GTL/E/M/SPEC/LED/10/1	Nos	5	1,61,952.63	40,487.34	8,09,763.15	2,02,436.70	10,12,199.85
65	Supply & fixing and connecting of 24 Hours Programmable Time switch alongwith MCB, contractor in steel sheet iron box for the circuits of lighting & fans/aircirculators etc.	Nos	5	6,871.60	-	34,358.00	-	34,358.00
66	Co-ordination/ linsoning and chasing with State Utility Company for availing new electrical connection/ augmentation of sanctioned load at stations, level crossings etc. including applying for load, collection of estimates for loads, modification of power line crossings, arranging payment from RVNL, depositing payment to State Utility Company, arranging release of load & other related works, payment to be made to SEB for new connection, load augmentation, modification of power line crossings etc. shall be made by RVNL.	Each location	100	-	11,636.90	-	11,63,690.00	11,63,690.00



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
67	Supplying and erection of galvanised stay set for 11 /33 KV over head lines complete with 19/ 20 mm dia X 1.8 metres long stay rod, anchor plate of size 45 cm X 45 cm X 7.5 mm thick, thimble, stay clamps, turn buckle (20 mm X 600 mm), 7/ 4.00 mm dia G.I. stay wire and 11 KV strain insulator etc in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required	No	5	-	4,355.12	-	21,775.60	21,775.60
68	Supplying and erection of three piece nonlinear resistor type lightning arrester suitable for 3 wire, 11 KV overhead lines with rated voltage 9 KV (rms) with a nominal discharge current rating of 5 KA and complete with galvanised clamping arrangement, G.I. bolts, nuts, washers etc. as required.	Set	10	1,975.76	219.91	19,757.60	2,199.10	21,956.70
69	Supplying and erection of nonlinear resistor type lightning arrester suitable for 3 wire, 33 KV overhead lines with rated voltage 30 KV (rms) with a nominal discharge current rating of 10 KA (station class) and complete with galvanised clamping arrangement, G.I. bolts, nuts, washers etc. as required.	Set	4	13,272.34	1,474.70	53,089.36	5,898.80	58,988.16
70	Supply & Erection of 33 kv HT pin insulator with metal part completed with all accessories as required	Set	5	560.56	-	2,802.80	-	2,802.80
71	Supply & Erection of 33 kv HT Disc insulator with metal part completed with all accessories as required	Set	5	1,949.02	-	9,745.10	-	9,745.10
72	Per day living charges of 5KVA Generator	Nos	200	-	2,776.93	-	5,55,386.00	5,55,386.00
73	Running cost of DG including Maintenance, operation and fuel etc.	Hour	2000	-	232.85	-	4,65,700.00	4,65,700.00
74	Main power including Electrician (Per 12 Hrs=1 Shift) at each yard	Nos	200	-	629.55	-	1,25,910.00	1,25,910.00
75	Commissioning and dismantling of LED lights with cable and power supply arrangement at one station during pre-NI/Ni	LS	5	-	9,658.88	-	48,294.40	48,294.40
76	Dismantling of erected pole/overhead conductor, GI wire, cross arm brackets, insulators, stay,luminary etc including accountal, stocking, and handing over the released materials to railway's authorized official as instructed by the Engineer and making temporary arrangements if required	No	100	-	1,103.79	-	1,10,379.00	1,10,379.00
77	Cable termination of existing cables including cost of supply and fixing, crimping lugs, double compression brass glands, insulation tape, etc. complete as per specifications and as required.	Set	20	480.00	120.00	9,600.00	2,400.00	12,000.00
(a)	2 Core 70 sq.mm	Set	20	520.00	130.00	10,400.00	2,600.00	13,000.00
(b)	2 Core 150 sq.mm	Set	20	320.00	80.00	6,400.00	1,600.00	8,000.00
(c)	4 Core 16 sq.mm	Set	20	400.00	100.00	8,000.00	2,000.00	10,000.00
(d)	4.0 Core 35 sq.mm	Set	10	400.00	100.00	4,000.00	1,000.00	5,000.00
(e)	4.0 Core 70 sq.mm	Set	10	640.00	160.00	6,400.00	1,600.00	8,000.00
(f)	4.0 Core 120 sq.mm	Set	10	800.00	200.00	8,000.00	2,000.00	10,000.00
(g)	4.0 Core 185 sq.mm	Set	10	1,120.00	280.00	11,200.00	2,800.00	14,000.00
(h)	4.0 Core 300 sq.mm	Set	10	1,520.00	380.00	15,200.00	3,800.00	19,000.00
(i)	4.0 Core 400 sqmm	Set	10	-	-	-	-	-
78	BURRED RAIL WORK							



Sr. No.	Description of Items	Unit	BOQ Qty	Rate with 18% GST		Amount		
				Supply	Erection	Supply	Erection	Total
(a)	Supply erection testing and commissioning of buried earth rail. Rail will be supplied by IRCON at Site Location.	Sct	8	76,121.60	19,030.40	6,08,972.80	1,52,243.20	7,61,216.00
79	Supply & fixing of wall mounted fan 400mm sweep	Nos	10	5,718.62	230.15	57,186.20	2,501.50	59,687.70
80	Supply, Erection, Testing and Commissioning of centrifugal pump motor set - Capacity 50 HP, head-35 mtr, discharge-4800 LPM, RPM-1450 with foot valve, non return valve, sluice valve, suction pipe, fix plate & soft starter complete	Sct	1		6,34,032.00		6,34,032.00	6,34,032.00
81	Supply & erection of structure bond	Nos	250	645.86	141.58	1,61,465.00	35,305.00	1,96,860.00
82	Supply & erection of all types of longitudinal bonds	Nos	50	424.72	141.58	21,236.00	7,079.00	28,315.00
83	Supply & erection of all transverse/ inter connection bond, Z bond, special bond and other bonds	Nos	150	570.42	141.58	85,563.00	21,237.00	1,06,800.00
84	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 meters lead as per direction of engineer in charge. Nominal concrete 1:3:6 or richer mix (including equivalent design mix)	Cum	50	-	2,434.25	-	1,21,712.50	1,21,712.50
85	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 meters lead as per direction of Engineer - in - charge.	Cum	40	-	3,551.25	-	1,42,050.00	1,42,050.00
86	Extra for cutting reinforcement bars manually/ by mechanical means in R.C.C. or R.B. work (Payment shall be made on the cross-sectional area of R.C.C. or R.B. work) as per direction of Engineer-in-charge.	Sq. mtr	150	-	1,147.20	-	1,72,080.00	1,72,080.00
Total								4,97,34,032.15



Balance General Electrical Works in Katni-Singrauli Doubling Project

BILL OF QUANTITY

Schedule - A-2

Internal wiring of staff quarters				
A-2				
Sr. No.	Type of Quarters	No. of quarters	Unit Amount (Rs.)	Total Amount (Rs.)
1	Type-II	100	₹ 46,457.70	₹ 46,45,770.00
2	Type-III	50	₹ 68,085.14	₹ 34,04,257.00
3	Type-IV	20	₹ 98,510.83	₹ 19,70,216.60
Total amount of Quarters				₹ 1,00,20,243.60



Balance General Electrical Works in Katni-Singrauli Doubling Project

BILL OF QUANTITY

Schedule - A-2

Internal wiring of staff quarters

1. TYPE - II Quarters

Sr. No.	Description of Items	Unit	Qty	Rate (Incl. GST)	Amount
1	Supply, erection, testing & commissioning of electrical wiring for various points of CFL/Tube light/Ceiling fan/Exhaust fan/call bell/bulk head stair case. The work includes wiring from light & fan control switch board to various points with 1.5 sqmm multistranded PVC insulated copper wire and 16 SWG copper wire. All materials required such as copper wire, earth wire, PVC conduit (cutting, Chipping & finishing of wall), PVC round block, ceiling rose, holder, piano type switches and other accessories required for electrical wiring shall be supplied by contractor.	Nos.	18	320.81	5,774.58
2	5 A 5 pin switch-socket:- Supply and erection of 5 A 5 pin switch-socket on light and fan control switch board and its connection, testing & commissioning.	Nos.	8	61.23	489.84
3	15 A 6 pin switch-socket:- 15 A 6 pin socket point on separate circuit and board. Supply of combined switch socket & fuse point/MCB connected Socket outlet fixing, testing and commissioning on separate circuit and board and wiring in PVC casing-capping by using 4 sqmm multistrand copper wire for phase and neutral & 1 x 1.5 sqmm pvc insulated multi-stranded copper wire for earth from MDB/SDB/Board to this separate board. Proper colour coding as per IE rules should be followed for wiring.	Nos.	4	513.13	2,052.52
4	Electric Electronic call Bell (Ding Dong / Fish type):- Supply, erection, testing and commissioning of call bell. The call bell shall be provided using appropriate fasteners and connection using flexible copper wire of 1.5 sqmm from ceiling rose to bell.	Nos.	1	309.60	309.60
5	Supply, erection, testing and commissioning of 18/20W or equivalent LED Bulb including fitting, colour temp. 6500K(cool day light). Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos.	7	150.06	1,050.42
6	Supply, erection, testing and commissioning of 9W or equivalent LED Bulb including fitting, colour temp. 6500K(cool day light). Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos.	2	112.11	224.22
7	Supply and installation of 1X20W LED tube light fitting complete with LED lamp similar to Philips Model No-TMC 501 P1xT-LED22W/F3241 or equivalent as approved by engineers with 3x1.5sqmm PRLS PVC insulated multistranded copper cables as instructed & earthing etc as required. Preferable Make shall be Havells, Bajaj, Philips or equivalent. Prior approval for material shall be taken from competent authority.	Nos.	4	1,381.56	5,526.24
8	Supply, erection, testing & commissioning of bulk head fitting (Energy Efficient) for staircase lighting. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar. Prior approval for material shall be taken from competent authority.	Nos.	1	371.69	371.69
9	Supply, erection, testing & commissioning of ceiling fan 1200 mm sweep including connection the down rods of standard length (up to 30 cm) (Energy Efficient) with 1.5 sqmm PVC insulated copper conductor, single core cable etc as required. Prior approval for material shall be taken from competent authority.	Nos.	3	1,432.45	4,297.35



Sl. No.	Description of Items	Unit	Qty	Rate (Incl. GST)	Amount
10	EXHAUST FAN 300 MM SWEEP : Supply, erection, testing & commissioning of exhaust fan 300 mm sweep (Energy Efficient) including making opening for exhausted air (if required) and plastering. Fixing is to be done in the wall using required fasteners, then grouting and then connection is to be given from ceiling rose to this fan using cable of 1.5 Sqmm size. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar. Prior approval for material shall be taken from competent authority.	Nos.	1	1,184.08	1,184.08
11	Supply, erection, testing & Commissioning of MS Main distribution box of suitable size with screwed door and slot opening for MCB operation on polished teak wood board consisting of 1 no. 32 Amp DP MCB and 2 nos. 16A SP MCB and 1 no. 6/10Amps SP MCB, 1 no ELCB 300 mA, suitable busbar, neutral link, earth stud. Preferable make shall be Legrand, seimens, schneider or equivalent.	Point	1	6,267.06	6,267.06
12	EARTHING ARRANGEMENTS:- Supply and erection of earthing arrangement as per IS. Prior approval for material shall be taken from competent authority.	Nos	1	3,232.28	3,232.28
13	Sub main circuit wiring :- Wiring from SDB to switch board in surface PVC conduit /Conceal with 2x4sqmm multi stranded flexible copper cable for phase & neutral and 1x2.5sqmm multi-stranded flexible copper cable for earth. Prior approval for material shall be taken from competent authority.	Mtrs	90	75.03	6,752.70
14	Service Tapping:- Supply, erection, testing & commissioning of service tapping (Includes B class GI pipe 38/40 mm, clamps, nut bolt etc.) for type ii, iii & iv with 10 sqmm multi stranded copper cable for 1 phase supply. Prior approval for material shall be taken from competent authority.	No.	1	2,151.69	2,151.69
15	Single phase Energy Meter: Supply, installation, testing & commissioning of single phase energy meter 5A-20A. The meter shall be fixed in meter panel box. Incoming service cable leads shall be connected to the appropriate terminals and the outgoing supply shall be brought to main distribution board provided in the respective houses. Earth wire of 16 SWG copper wire for outgoing from meter board is to be provided.	No	1	1,323.78	1,323.78
16	20A MCB and socket for air Conditioner: Supply & fixing of 20A, 240V SPN, industrial type socket outlet with two pole & earthmetal enclosed plug top alongwith 20 A Ac series SP MCB in sheet steel enclosure on surface or with chained metal cover for socket outlet and complete with connection, testing & commissioning etc as required. Prior approval for material shall be taken from competent authority. Preferable make shall be Legrand, Seimens, Schneider or similar.	No	1	1,008.15	1,008.15
17	Power circuit wiring for Air conditioner: Supply, erection, testing commissioning of power circuit wiring with 2x6 sqmm for P & N and 1x6 Sqmm for earth PVC insulated multi stranded copper wire single core for earth.	Mtrs	50	88.83	4,441.50
Total cost for One Type-II quarter					46,457.70

2. TYPE - III Quarters

1	Supply, erection, testing & commissioning of electrical wiring for various points of CFL/Tube Light/Ceiling fan/Exhaust fan/call bell/bulk head stair case. The work includes wiring from light & fan control switch board to various points with 1.5 sqmm multistranded PVC insulated copper wire and 16 SWG copper wire. All materials required such as copper wire, earth wire, PVC conduit (cutting, Chipping, & finishing of wall), PVC round block, ceiling rose, holder, piano type switches and other accessories required for electrical wiring shall be supplied by contractor.	Nos.	26	320.81	8,341.06
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Sl. No.	Description of Items	Unit	Qty	Rate (Incl. GST)	Amount
2	5 A 5 pin switch-socket:- Supply and erection of 5 A 5 pin switch-socket on light and fan control switch board and its connection, testing & commissioning.	Nos.	9	61.23	551.07
3	15 A 6 pin switch-socket:- 15 A 6 pin socket point on separate circuit and board. Supply of combined switch socket & fuse point./MCB connected Socket outlet fixing,testing and commissioning on separate circuit and board and wiring in PVC casing-caping by using 4 sqmm multistrand copper wire for phase and neutral & 1 x 1.5 sqmm pvc insulated multi-stranded copper wire for earth from MDB/SDB/Board to this separate board. All material required for the job shall be supplied by contractor. Proper colour coding as per IE rules should be followed for wiring.	Nos.	5	513.13	2,565.65
4	Electric Electronic call Bell (Ding Dong /Fish type):- Supply, erection, testing and commissioning of call bell. The call bell shall be provided using appropriate fasteners and connection using flexible copper wire of 1.5 sqmm from ceiling rose to bell.	Nos.	1	309.60	309.60
5	Supply , erection , testing and commissioning of 18/20W or equivalent LED Bulb fitting, colour temp.6500K(cool day light). Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos.	10	150.06	1,500.60
6	Supply , erection , testing and commissioning of 9W or equivalent LED Bulb including fitting, colour temp.6500K(cool day light). Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos	3	112.11	336.33
7	Supply and installation of 1X20W LED tube light fitting complete with LED lamp similar to Philips Model No-TMC 501 P1XT-LED22WP3241 or equivalent as approved by engineers with 3x1.5sqmm FRLS PVC insulated multistranded copper cables as instructed & earthing etc as required. Preferable Make shall be Havells, Bajaj, Philips or equivalent.	Nos.	5	1,381.56	6,907.80
8	Supply, erection, testing & commissioning of bulk head fitting (Energy Efficient) for staircase lighting. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos.	1	371.69	371.69
9	Supply, erection, testing & commissioning of ceiling fan 1200 mm sweep including connection the down rods of standard length (up to 30 cm) (Energy Efficient) with 1.5 sqmm PVC insulated copper conductor, single core cable etc as required. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos.	4	1,432.45	5,729.80
10	EXHAUST FAN 300 MM SWEEP : Supply, erection, testing & commissioning of exhaust fan 300 mm sweep (Energy Efficient) including making opening for exhausted air (if required) and plastering. Fixing is to be done in the wall using required fasteners, thier grouting and then connection is to be given from ceiling rose to this fan using cable of 1.5 Sqmm size.	Nos.	1	1,184.08	1,184.08
11	Supply, erection, testing & Commissioning of MS Main distribution box of suitable size with screwed door and slot opening for MCB operation on polished teak wood board consisting of 1 no. 32 Amp DP MCB and 3 nos. 16A SP MCB and 2 no. 6/10Amps SP MCB , 1 no ELCB 300 mA , suitable busbar , neutral link , earth stud. Preferable make shall be Legrand , seimens, schneider or equivalent.	No	1	6,267.06	6,267.06
12	EARTHING ARRANGEMENTS:- Supply and erection of earthing arrangement as per IS.Prior approval for material shall be taken from competent authority.	Nos	1	3,232.28	3,232.28
13	Sub main circuit wiring :- Wiring from SDB to switch board in surface PVC conduit /Conceal with 2x4sqmm multi stranded flexible copper cable for phase & neutral and 1x2.5sqmm multi-stranded flexible copper cable for earth. All materials required for job shall be supplied by contractor. preferable make of copper wire shall be polycab, Universal, CCI or similar.	Mtrs	130	75.03	9,753.90



Sr. No.	Description of Items	Unit	Qty	Rate (Incl. GST)	Amount
14	Single phase Energy Meter: Supply, Installation, testing & commissioning of single phase energy meter 5A-20A. The meter shall be fixed in meter panel box. Incoming service cable leads shall be connected to the appropriate terminals and the outgoing supply shall be brought to main distribution board provided in the respective houses. Earth wire of 16 SWG copper wire for outgoing from meter board is to be provided.	No	1	1,323.78	1,323.78
15	Service Tapping:- Supply, erection, testing & commissioning of service tapping (includes B class GI pipe 38/40 mm, clamps, nut bolt etc.) for type iii & iv with 10 sqmm multi stranded copper cable for 1 phase supply.	No.s	1	2,151.69	2,151.69
16	20A MCB and socket for air Conditioner: Supply & fixing of 20A, 240V SPN, industrial type socket outlet with two pole & earthmetal enclosed plug top alongwith 20 A Ac series SP MCB in sheet steel enclosure on surface or with chained metal cover for socket outlet and complete with connection , testing & commissioning etc as required. Preferable make shall be Legrand, Seimens, Schneider or equ.	No	2	1,008.15	2,016.30
17	Power circuit wiring for Air conditioner: Supply, erection, testing commissioning of power circuit wiring with 2x6 sqmm for P & N and 1x6 Sqmm for earth PVC insulated multi stranded copper wire single core for earth.	Mtrs	100	88.83	8,883.00
18	Supply, erection, testing & commissioning of 15 ltrs geyser includes fixing on ragbolts grouting with proper cement etc and required nut bolts and its final testing. All materials required for the job shall be supplied by contractor.	No	1	6,659.45	6,659.45
Total cost for One Type-III quarter					68,085.14

3. TYPE - IV Quarters

1	Supply, erection, testing & commissioning of electrical wiring for various points of CFL/Tube light/Ceiling fan/Exhaust fan/call bell/bulk head stair case. The work includes wiring from light & fan control switch board to various points with 1.5 sqmm multistranded PVC insulated copper wire and 16 SWG copper wire. All materials required such as copper wire, earth wire, PVC conduit (cutting, Chipping & finishing of wall), PVC round block , ceiling rose , holder, piano type switches and other accessories required for electrical wiring shall be supplied by contractor.	Nos.	37	320.81	11,869.97
2	5 A 5 pin switch-socket:- Supply and erection of 5 A 5 pin switch-socket on light and fan control switch board and its connection, testing & commissioning.	Nos.	12	61.23	734.76
3	15 A 6 pin switch-socket:- 15 A 6 pin socket point on separate circuit and board. Supply of combined switch socket & fuse point,/MCB connected Socket outlet fixing,testing and commissioning on separate circuit and board and wiring in PVC casing-capping by using 4 sqmm multistrand copper wire for phase and neutral & 1 x 1.5 sqmm pvc insulated multi-stranded copper wire for earth from MDB/SDB/Board to this separate board. Proper colour coding as per IE rules should be followed for wiring.	Nos.	8	513.13	4,105.04
4	Electric Electronic call Bell (Ding Dong / Fish type):- Supply, erection, testing and commissioning of call bell. The call bell shall be provided using appropriate fasteners and connection using flexible copper wire of 1.5 sqmm from ceiling rose to bell.	Nos.	1	309.60	309.60
5	Supply , erection , testing and commissioning of 18/20W or equivalent LED Bulb fitting, colour temp.6500K(cool day light). Preferable make shall be Eajaj, Crompton Greaves, Philips or similar.	Nos.	15	150.06	2,250.90



Sr. No.	Description of Items	Unit	Qty	Rate (Incl. GST)	Amount
6	Supply , erection , testing and commissioning of 9W or equivalent LED Bulb including fitting, colour temp.6500K(cool day light), Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos	5	112.11	560.55
7	Supply and installation of 1X20W LED tube light fitting complete with LED lamp similar to Philips Model No-TMC 501 P1xT-LED22WP3241 or equivalent as approved by engineers with 3x1.5sqmm FRLS PVC insulated multistranded copper cables as instructed & earthing etc as required. Preferable Make shall be Havells, Bajaj, Philips or equivalent.	Nos.	8	1,381.56	11,052.48
8	Supply, erection, testing & commissioning of bulk head fitting (Energy Efficient) for staircase lighting. Preferable make shall be Bajaj, Crompton Greaves, Philips or similar.	Nos.	1	371.69	371.69
9	Supply, erection, testing & commissioning of ceiling fan 1200 mm sweep including connection the down rods of standard length (up to 30 cm) (Energy Efficient) with 1.5 sqmm PVC insulated copper conductor, single core cable etc as required.	Nos.	7	1,432.45	10,027.15
10	EXHAUST FAN 300 MM SWEEP : Supply, erection, testing & commissioning of exhaust fan 300 mm sweep (Energy Efficient) including making opening for exhausted air (if required) and plastering. Fixing is to be done in the wall using required fasteners, thier grouting and then connection is to be given from ceiling rose to this fan using cable of 1.5 Sqmm size.	Nos.	4	1,184.08	4,736.32
11	Supply, erection, testing & commissioning of SDB having copper busbar of 50 A capacity made of 14 SWG MS sheet comprising 1x40 A, 415 V, TPN MCB (10 KA) for incoming & 3 x 5A SPN MCB, 3x10 A SPN MCB , 3x16A SPN MCB & 1 No. ELCB of 300 mA sensitivity. SDB should confirm to relevant IS standard. Preferable make shall be legrand, seimens, schneider or equivalent .	Nos.	1	7,770.22	7,770.22
12	EARTHING ARRANGEMENTS:- Supply and erection of earthing arrangement.Prior approval for material shall be taken from competent authority.	No.s	1	3,232.28	3,232.28
13	Sub main circuit wiring :- Wiring from SDB to switch board in surface PVC conduit /Conceal with 2x4sqmm multi stranded flexible copper cable for phase & neutral and 1x2.5sqmm multi-stranded flexible copper cable for earth. All materials required for job shall be supplied by contractor. preferable make of copper wire shall be polycab, Universal, CCI or similar.	Mtrs	200	75.03	15,006.00
14	Single phase Energy/Meter: Supply, Installation, testing & commissioning of single phase energy meter 5A-20A. The meter shall be fixed in meter panel box. Incoming service cable leads shall be connected to the appropriate terminals and the outgoing supply shall be brought to main distribution board provided in the respective houses. Earth wire of 16 SWG copper wire for outgoing from meter board is to be provided.	No	1	1,323.78	1,323.78
15	Service Tapping:- Supply, erection ,testing &commissioning of service tapping (includes B class GI pipe 38/40 mm, clamps, nut bolt etc.) for type iii & iv with 10 sqmm multi stranded copper cable for 1 phase supply. Prior approval for material shall be taken from competent authority.	No	1	2,151.69	2,151.69
16	20A MCB and socket for air Conditioner: Supply & fixing of 20A, 240V SPN, industrial type socket outlet with two pole & earthmetal enclosed plug top alongwith 20 A Ac seriesSP MCB in sheet steel enclosure on surface or with chained metal cover for socket outlet and complete with connection , testing & commissioning etc as required. Preferable make shall be Legrand, Seimens, Schneider or equ.	No	3	1,008.15	3,024.45
17	Power circuit wiring for Air conditioner: Supply, erection, testing commissioning of power circuit wiring with 2x6 sqmm for P & N and 1x6 Sqmm for earth PVC insulated multi stranded copper wire single core for earth.	Mtrs	150	88.83	13,324.50



Sr. No.	Description of Items	Unit	Qty	Rate (Incl. GST)	Amount
18	Supply, erection, testing & commissioning of 15 ltrs geyser includes fixing on ragbolts grouting with proper cement etc and required nut bolts and its final testing. All materials required for the job shall be supplied by contractor.	No	1	6,659.45	6,659.45
Total cost for One Type-IV quarter					98,510.83



Balance General Electrical Works in Katni-Singrauli Doubling Project

BILL OF QUANTITY

Schedule -B

Technical Consultants						
BOQ Item No.	Description	Unit	Personnel/ Qty required	Months	BOQ rate	Total Amount (In Rs)
A	Technical Consultant					
1	Resident Engineer (Electrical/ Mechanical/ Civil) for OHE/PSI/GS/ TSS/SCADA works	Man - months	2	9	1,71,603.72	₹ 30,88,866.96
2	Electrical Expert (OHE/ PSI/ GS/ TSS/ SCADA)	Man - months	4	9	1,11,037.70	₹ 39,97,357.20
3	Supervisor electrical (OHE/ PSI/ GS/ TSS/ SCADA)	Man - months	6	9	84,670.07	₹ 45,72,183.78
4	Traffic Inspector	Man - months	2	9	84,670.07	₹ 15,24,061.26
5	Tower Wagon Driver	Man - months	2	9	84,670.07	₹ 15,24,061.26
Total						₹ 1,47,06,530.46



Schedule-C
T&P/M&P

S. NO.	ITEM NAME	Unit	Qty	Rate (Rs.)	Amount (Rs.)
1	Tirfor 2.5T/1.5T, ISI marked as per IS: 5604/1984 or latest (Make TRACTEL /TIRFOR or equivalent as approved by Engineer)	Nos	15	17,944.43	₹ 2,69,166.45
2	Tirfor 5T/3T, ISI marked as per IS: 5604/1984 or latest (Make TRACTEL /TIRFOR or equivalent as approved by Engineer)	Nos	15	24,521.88	₹ 3,67,828.20
3	Pull lift 0.75T/0.8T ISI mark (Make TRACTEL or equivalent as approved by Engineer)	Nos	15	9,868.80	₹ 1,48,032.00
4	Set of Steel slings with eye on each end of 8mmX2m/1m & 12mmX3m length (Or length as desired by IRCON/Railway)	Nos	75	3,738.07	₹ 2,80,355.25
5	Drop Out Fuse pull rod made of fibre body, extension type, suitable for use on 25kV OHE as per RDSO spec No: ETI/PSI/14(1/86) and CORE/ALD drg No. POWER/RLY/1849 as approved by Engineer. (Or to be used as crow nest removing rod)	Nos	15	7,127.41	₹ 1,06,911.15
6	Supply, installation and commissioning of hydraulic insulator testing machine for testing tensile load strength of 25kV, Porcelain and composite insulators as per RDSO specn. No TI/SPC/OHE/INSTEEST/0090 (02/2009) with A&C No-1 or latest.	Nos	5	3,89,204.04	₹ 19,46,020.20
7	Insulation tester with voltage selectable range of 250V, 500 V, 1000V, 2500V and 5000V digital numeric display with Insulation (Ins), Polarisation Index (PI) and variable time test modes and IR measurements upto 1000G Ohms in hard carrying case with all standard accessories similar to Megger make model BM 5200 or Fluke 1550C or superior as approved by Engineer.	Set	10	2,15,012.86	₹ 21,50,128.60



S. NO.	ITEM NAME	Unit	Qty	Rate (Rs.)	Amount (Rs.)
8	Supply of Digital Ground/Earth tester clamp type suitable for ground earth electrode earth resistance measurements without opening earth connections. Range 0.05 ohm to 1500 ohms, current 0.5mA-35A, Jaw size: 55X39mm, The meter shall be CATIV600V, Jaw size: 55X39mm, The meter shall be CATIV600V, Pollution Degree 2 and IP30 with jaws closed and 256 data storage facility, 4 digit LCD display, computer interface port, with all standard accessories and carrying case similar to Megger Model DET14C or Fluke Model 1630 or superior and as approved by Engineer.	Set	10	70,254.25	₹ 7,02,542.50
9	Thermal Imaging Camera (inclusive of software) as per RDSO specification No. TT/SPC/OHE/TIPS/1031 (Dec'2013) or latest, temperature range from (-20) to (500) degree centigrade (CEM model DT-9885 or superior as approved by Engineer).	Set	5	5,35,933.88	₹ 26,79,669.40
10	Digital multi-meter (Clamp type) 1000V, 10A Motwane make model DM352 or superior as approved by Engineer	Nos	50	16,527.38	₹ 8,26,369.00
11	Dropper Wire (5mm/7mm)	MT	0.15	7,05,958.15	₹ 1,05,893.72
12	Earth resistance tester (Analog)	Set	10	10,466.67	₹ 1,04,666.70
13	Vernier calliper (Analog)	Nos	10	1,550.00	₹ 15,500.00
14	Hydrometer	Nos	25	1,166.67	₹ 29,166.75
15	Rechargeable Torch light 3W (Make: Eveready or similar)	Nos	50	816.67	₹ 40,833.50
16	Rail Road (Height & Stagger measuring gauge as per RDSO guideline)	Nos	5	3,01,666.67	₹ 15,08,333.35
17	Contact wire twister	Nos	10	7,900.00	₹ 79,000.00
18	Drill bit 17.55mm	Nos	50	1,983.33	₹ 99,166.50
19	Hard crimping tool 12"	Nos	50	2,600.00	₹ 1,30,000.00
20	Rechargeable Torch 3W (Tri color - Flag lights)	Nos	50	2,440.00	₹ 1,22,000.00
21	Manila rope 20 mtr	Mtr	500	91.67	₹ 45,835.00
22	Pully 1.5 T	Nos	50	1,016.67	₹ 50,833.50
Total amount of Type-A Material (Schedule)					₹ 1,18,08,251.77



Balance General Electrical Works in Katni-Singrauli Doubling Project

BILL OF QUANTITY

Schedule - 2

Site Inspection Vehicles						
BOQ Item No.	Description	Unit	Personnel/ Qty required	Months	BOQ rate	Total Amount (In Rs)
1(a)	Providing road vehicle for the use of Engineer/Employer Tata Sumo, Bolero, Scorpio or similar SUV (up to 3000 KM in one month extra will be payable in 1(c))	Vehicle Month	3	9	60,755.90	₹ 16,40,409.30
1(b)	Providing road vehicle for the use of Employer/Project Head Innova, scorpio or similar SUV (up to 3000 KM in one month extra will be payable in 1(c))	Vehicle Month	1	9	75,619.89	₹ 6,80,579.00
1(c)	Extra for running and maintenance of every running KM over and above 3000KM	KM	15000	-	19.00	₹ 2,84,971.50
Total (B)						₹ 26,05,959.80



Signature Not Verified

Digitally signed by DEEPAK KUMAR KOSE

Date: 2024.07.09 19:39:21 IST

Location: eProcurement System for Central PSUs